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ABSTRACT

This study investigated the relationship between levels in Piaget's hierarchy of cognitive development and Loevinger's model of ego development. The data were examined for indications of cognitive prerequisites for development of ego levels. Sixty women, 30 in each of two age groups (18-21 and 35-47) were administered the chemicals and correlation task and the Washington University Sentence Completion Test. The results indicated that cognitive prerequisites for ego development exist, but that high cognitive development does not necessarily insure high ego development. A comparison of group scores showed that ego development is related to age and appears to increase with age, but that cognitive development remains unchanged over the period from young to middle adulthood. Additional analysis of formal operations revealed that schemata develop asynchronously and that decalage is unrelated to age but is significantly related to operational level. (Author/MP)

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The Relationship between Levels of Cognitive Development and Ego Development in Adult Women

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ABSTRACT

This study investigated the relationship between levels in Piaget's hierarchy of cognitive development and Loevinger's model of ego development. The data were examined for indication of cognitive prerequisites for development of ego levels. Sixty women, 30 each between the ages of 18-21 and 35-47, were administered the chemicals and correlation task and the Washington University Sentence Completion Test. The results indicated that cognitive prerequisites for ego development exist, but that high cognitive development does not necessarily insure high ego development. A comparison of group scores showed that ego development is related to age and appears to increase with age, but that cognitive development remains unchanged over the period from young to middle adulthood. Additional analysis of formal operations revealed that schemata develop asynchronously and that décalage is unrelated to age but is significantly related to operational level.

The extent to which developmental processes overlap and affect one another has been the subject of extended speculation and some empirical study in the field of human development.

Loevinger, who has conceptualized the affective structure in a construct of ego development, posits that cognitive prerequisites exist for the development of ego stages (Loevinger, 1976). Loevinger speculates that attainment of higher stages of cognitive development is a necessary but not sufficient condition for attainment of higher levels of ego development; a combination of factors ultimately accounts for growth of the ego.

Empirical investigation of cognitive prerequisites for development in the affective domain has been conducted largely in the area of moral judgment between stages of principled moral reasoning in Kohlberg's hierarchy and formal operations in Piaget's hierarchy (Kuhn, Langer, Kohlberg and Haan, 1977; Keasey and Keasey, 1974).

The study reviewed today [1/] provides an opportunity to examine Loevinger's hypothesized relationship of cognitive structures to ego development at upper levels found in adults. In addition, the data contribute to the growing body of normative information being collected on cognitive and ego growth in adulthood and adds to ongoing evaluation of the formal operations structure.

In this study, structural components of development were defined by Jean Piaget's stages of logical operations and Jane Loevinger's stages of ego development. Two levels were added between the concrete and formal

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[1/] Lockett, D.W. A preliminary investigation of the relationship between levels of cognitive development and levels of ego development in a population of adult women. Unpublished doctoral dissertation, The George Washington University, 1979.

operations stages to represent subject's performance on cognitive tasks. The two additional levels were the emergent formal operations and transitional formal operations levels which precede full formal operational thought. This division followed one developed by Deanna Kuhn and associates at Harvard for scoring the chemicals and correlations tasks that were used in this study.

Jane Loevinger's hierarchy contains eight levels arranged along a continuum which at the early levels consists of a conformist orientation and proceeds toward conscientious, individualistic and finally autonomous and integrated levels.

A total of 60 women were involved as subjects in this study. Thirty women were between the ages of 18 and 21 and were designated as the young adult group; another thirty in the middle adult group were between the ages of 35 and 47. All had completed at least one year of college and were of middle to upper-middle socio-economic levels. Each subject was tested individually in sessions during which two Piagetian tasks of formal operations and the Washington University Sentence Completion Test (an assessment of ego development) were administered in rotated order. Estimates of interrater reliability for both tests were extremely high.

Analysis of the data indicated a significant correlation ($r = .34$, $p < .007$) between levels of cognitive development and ego development which remained unchanged with age partialled out.

The nature of the relationship between levels of cognitive and ego development was further explored in a bivariate contingency table. The distribution of stage scores revealed a pattern which confirmed the hypothesized relationship that cognitive development is a necessary but not sufficient condition for ego development.

A significant association between cognitive development and ego development levels ($x^2(15) = 25.21$, $p < .05$) showed that the stage of emergent formal operations is a prerequisite for ego development at the individualistic (I-4/5) level. The other prerequisites suggested in the contingency table are that transitional formal operations is a prerequisite for the autonomous (I-5) level and formal operations a prerequisite for the integrated (I-6) level.[1/] Additional analysis using the highest score on the Piagetian tasks as the criterion for cognitive attainment revealed an alternative possibility that the stage of transitional formal operations is a prerequisite for individualistic ego development.

If cognitive development was solely responsible for ego development, then one would expect a majority of subjects who display high cognitive development to consistently display correspondingly high levels of ego development. A cumulative percentage distribution of subjects at each ego level by cognitive level clearly indicated that high cognitive development does not insure high ego development in all cases; instead it set an upper limit for ego development. For example, at the emergent formal operations level, only 18% of the subjects reached the individualistic level of ego development, which was the highest ego stage attained at that cognitive level. Similarly, at the transitional formal operations level, only 13% attained autonomous ego development; and, at the formal operations stage, only 7% functioned at the highest integrated ego development level.

In additional analysis, stages of ego development and cognitive development were correlated with age. A significant correlation between age and ego development but not between age and cognitive development was found, suggesting the possibility that age related experiences are a salient

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1/ Prerequisites at the I-5 and I-6 ego levels are more tentative because of the low number of subjects at each of those levels.

factor in ego development and might account for variance of ego development levels observed at each cognitive development level.

Normative levels of ego and cognitive development were studied for both age groups. The distribution of ego development scores indicated advancement in levels with age from early to middle adulthood. The modal ego development level of young adults was conscientious-conformist (I-3/4) and conscientious (I-4) for middle adults.

On the other hand, no statistically significant differences in levels of cognitive attainment between young and middle adults was found, indicating relative stability of cognitive development over that period. The modal cognitive stage score for each age group was the same, transitional formal operations. A comparison of the distribution of cognitive scores of middle and young adults showed that the cognitive scores of middle adults were more evenly distributed across the different cognitive levels. A greater percentage of young adult subjects were at the transitional formal stage than middle-adult subjects. Also a greater percentage of middle-adult subjects achieved formal operations than did young adult subjects.

The stage spread in scores on the formal operations tasks, referred to as décalage, supports current evidence that formal operations schemata develop at different rates. A majority of young adults and middle adults attained formal operations on the chemicals task but not on the correlation task, in which the prevalent mode of performance was concrete operations. Further analysis of the distribution of stage scores by highest cognitive stage score indicate that approximately 70% of all subjects received the same or higher scores on the chemicals than the correlation task. Thus it appears that the formal operational schema measured by the chemicals task is acquired prior to the correlation schema.

Additional analysis of décalage patterns indicated that décalage was unrelated to age but significantly related to operational level. The greatest mean spread in scores noted at the formal operational level on the chemicals task demonstrated that formal operational subjects were more likely than subjects at other levels to attain a different score on the correlation task.

Results from this study essentially confirm Loevinger's position that ego development is somewhat contingent on cognitive development. Décalage between cognitive and ego scores indicates that development within each of these domains proceeds at different rates. Thus it appears that cognitive and ego structures are transformed in part by interactions with the environment that share the same base of experience. Experiences more specific to the nature of ego structures affect development within that realm, whereas cognitive structures draw on other, qualitatively different aspects of those experiences for growth. A possible source of variation in ego development levels along cognitive levels is found in the fact that age was significantly correlated with ego development but not with cognitive development levels. The evidence suggests the possibility that age-related experience is important in determining the course of ego growth.

The data also suggest that the change in ego development levels that Loevinger and Redmore (1979) observed in adolescent girls in a longitudinal study continues during the period from early adulthood to middle adulthood. The data confirm Loevinger's expectation that the conscientious/conformist (I-3/4) stage is modal for college students but suggest the alternative possibility that the conscientious (I-4) stage is modal for adults in the middle adult period.

Furthermore, the findings indicate that the cognitive regression several studies have documented in late adulthood (Kuhn et al., 1977; Papalia 1975) did not occur in the middle-adulthood period sampled in the present study. The low percentage of subjects at the formal operational level (26%) is congruent with evidence from many studies which indicates that formal operations is not the prevalent mode of thought in an adult population.

Finally, the disparity in performance scores on the chemicals and correlation task supports the notion of horizontal décalage in formal operational development. In terms of the schemata tested in the present study, the combinatorial schema appears to be acquired before the correlation schema. This sequence of acquisition is supported by evidence in Kuhn et al. (1977).

References

Inhelder B., & Piaget, J. The growth of logical thinking from childhood to adolescence. New York: Basic Books, 1958.

Keasey, C. T., & Keasey, C. B. The mediating role of cognitive development in moral judgment. Child Development, 1974, 45, 291-298.

Kuhn, D., Langer, J., Kohlberg, L., & Haan, N. The development of formal operations in logical and moral judgment. Genetic Psychology Monographs, 1977, 95, 97-188.

Loevinger, J. Ego development: Conceptions and theories. San Francisco: Josey-Ball, 1976.

Papalia, D., & Bielby, D. Cognitive functioning in middle age and old age adults, Human Development, 1974, 17, 424-443.

Redmore, C. & Loevinger, J. Ego Development in Adolescence: Longitudinal Studies. Journal of Youth and Adolescence, 1979, 8, 1-20.